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TECHNICAL REPORT
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MARINE CORPS DINING CONCEPTS IN THE 1990's VOLUME IV: DESIGN GUIDE

BY

JOHN B. KNIGHT
BYRON WONG
ROBERT WOODS

SCHOOL OF HOTEL MANAGEMENT
CORNELL UNIVERSITY

AND

KATHY-LYNN EVANGELOS
JANE A. BENSON

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UNITED STATES ARMY NATICK
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ADVANCED SYSTEMS CONCEPTS DIRECTORATE

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To regain efficiency and excellence in its feeding facilities, the U.S. Marine Corps needs to renovate or build new mess halls with a long-term (15 to 20 years) plan in mind.

This report, Volume IV of a four volume set, provides the physical layouts, decor recommendations, and equipment lists for suggested dining facility configurations. Volume I establishes the analysis, synopsizes conclusions, and provides overall recommendations. Volume II analyzes the demographic factors and food industry trends that may influence future food service and examines customer expectations through surveys and expert opinions. Volume III is the systems analysis, detailing how man and machine support the food service effort.

These volumes culminate the investigations of numerous people over the course of the project and are offered as templates for future Marine Corps dining facilities. Keywords:

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MARINE CORPS DINING CONCEPTS IN THE 1990's VOLUME IV: DESIGN GUIDE

INTRODUCTION

This manual is intended to aid Marine Corps food service officers in the renovation and construction of dining facilities. Practical design issues such as color, acoustics, and lighting are discussed. Various layouts which can be adapted to dining facilities are offered and analyzed. The user of this manual will be able to clearly identify the problems and needs of his operation.

The first step towards planning a successful renovation or beginning new construction is identifying those problems which exist in current food service operations and defining goals for the future. If the food service officer fails to identify all the problems or if he cannot accurately communicate them to the architect or food service consultant, a costly mistake may occur. For example, failure to know and tell the interior designer that spillage on the furniture is a major problem may result in the designer specifying a chair upholstery which has good strength and durability but poor stain resistance. This oversight would quickly result in diminished appearance of the chair and unanticipated higher maintenance costs.

The real value of this manual lies in providing information and understanding that will encourage the user to find solutions that are obtainable within available resources. For instance, if the budget does not allow the ceiling in the dining hall to be dropped for acoustical reasons, then the user can try other, less costly, options, such as strategically placing carpet on selected walls to absorb sound or isolating the source of the noise.

Background

In 1986, a major study to determine the needs of the United States Marine Corps (USMC) dining facilities for the years 1990-2005 was conducted by the U.S. Army Natick Research, Development and Engineering Center. USMC food service personnel from Marine Corps Headquarters, Washington, D.C., and Camps Johnson, Lejeune and Pendleton were interviewed to determine what they thought would be the most and least important issues in the dining halls for the next 5-20 years. In conjunction with these interviews, a comprehensive 163-item questionnaire was completed by each interviewee. Food service personnel were asked to rank each item on a 1-9 scale, where 9 represented "extremely important" and 1 represented "extremely unimportant". This questionnaire covered the following:

1. Food Items and Preparation Styles
2. Management, Training and Personnel
3. Service Elements
4. Environment and Design Factors

"Good food quality" was ranked the highest with a unanimous rating of 9.0. Further details can be found in Volume II of this series, titled Demographics, Trends, and Expert Opinions.

This manual reviews research into trends and innovations used in the corporate and institutional feeding sector.

The Corporate and Institutional Sector

Coprorations, hospitals, and other institutions recognize that cafeterias are more than just a place to eat. Many aesthetically cold and outdated cafeterias are being renovated to reflect a restaurant ambiance rather than an institutional character. One major reason for this is institutional feeders have begun to realize that their market is no longer captive. Employees and students alike are more mobile, discriminating, and demanding of where and what they eat. The fiercely competitive food service industry is forcing many corporations and schools to dramatically improve food quality and dining facilities to keep people from eating elsewhere. New restaurants and fast food chains are continually eroding the captive market.

The second and most important reason for improvements in cafeteria food and design is management's increasing concern for employee health and well-being. The company cafeteria is viewed as a tool for boosting employee productivity and morale. Many institutions are building new, up-to-date dining facilities or extensively renovating existing ones.

The evolution of institutional cafeterias applies to military feeding. If the Marine Corps wants to improve participation at the dining halls, it must substantially improve operations.

THE RENOVATION PROCESS

The renovation process begins with listing all the goals and objectives of the renovation. While many of the USMC dining halls were built decades ago with similar "cookie cutter" designs, each facility has its own unique needs and circumstances which may extend beyond the general conditions of old and obsolete. These differences may be attributed to aberrations in design, location of the facility, or due to human-related causes such as maintenance and supervision of the facility. One facility might experience problems with cold, windy, and wet weather because it is located in the northeast, while another might have problems with inadequate delivery schedules. In any case, it is up to the food service officer (FSO) in charge of the facility to identify these problems and to highlight them so that they can be given particular attention during the overall renovation.

After deficiencies and needs are identified, the FSO needs to make a list of goals and objectives which will be the driving force of the renovation. For instance, if slow service and cold food are problems, the FSO must decide how serious the problem is and then create a goal in as precise terms as possible. An acceptable goal, for example, would be to "speed up service and to make sure food is served hot." A better stated goal, however, would be "to serve each Marine a meal at its appropriate temperature within 10 minutes of entering the dining facility." An even more precise goal might be "to consistently serve 750 Marines per hour with a maximum serving period of 15 minutes per Marine during peak periods, and to provide hot entrees that are no less than 120 degrees Farenheit internal temperature within 5 minutes of serving." While such a goal may be exaggerated and impractical to achieve, the point is that it provides a concrete direction on how to solve the problem at hand. The more specific the goal, the more accurately it can be addressed by the architect and consultants, thereby lessening the chance for ambiguous and inappropriate solutions.

Prepared with a thorough list of needs, problems, and goals, the FSO can pursue the renovation or construction with clarity and direction. The FSO has two options:

1. select an interior designer to design the dining facility, a food service consultant to design the kitchen and serving line, and an architect to build the facility; or

2. select one organization that will perform all the design and architectural functions.

While many good ideas can be generated in-house, consultants can provide solutions which the operator or employees would not be aware of.

Basic Steps to Renovation

- Determine and analyze current problems and needs of facility.
- Respond to these by creating explicit, precise goals.

- Anticipate future problems and needs.

- Set precise goals for them as well.

- Prioritize these goals. Determine which is most and least urgent.

- Decide which option to choose (1 or 2) to design and build the facility. The choice will be influenced by the scope of the renovation or construction.

- Determine how much it would cost to obtain all or the most important goals.

PROPOSED DINING HALL SCHEMES

Dining Hall "A" - 320 Seats

This layout displays the basic components and operation of a dining hall using the open or "hollow" square serving line (Figure 1). This particular dining hall has a seating capacity of 320 Marines (Figure 2). Whether the dining hall is for 100 or 1000 Marines, however, the general layout and concept remains intact. The size of the parts will fluctuate according to the design capacity of the facility.

In this scheme, Marines enter an entry vestibule that automatically and efficiently queues them to the check-in station and into the open square. The Marine goes to those food stations which interest him and makes his selections. Immediately outside the serving area are several condiment and beverage stations which displace congestion inside the serving area.

The dining hall is divided into three main rooms: one dining room seats 140, another holds 84, and a third seats 96. Dividing the dining hall into three smaller dining rooms makes the large space more manageable and human in scale. It is important to note that the divisions are accomplished by full height walls. This is necessary to create a complete visual and psychological separation. Portable partitions only 6 feet high fail to achieve this separation, and the diner is still aware that he is in a very large, overwhelming space.

Circulation is generous and straightforward. Bathrooms are centrally located near the exit and tray return. The conveyor belt along the wall leading to the scullery expedites tray removal and eliminates long lines or bottlenecks near the exit. The scullery is enclosed and removed from the dining rooms as far as possible to reduce noise. Since the scullery is ideally adjacent to the serving area, clean trays and utensils are quickly replenished in the servery. Cross flow and distance have been minimized as much as possible. Overall, from entry to exit, the flow and function of this scheme is highly effective and efficient.

Dining Hall "B" - 940 Seats

Figure 3 illustrates the combination of larger serving and dining areas with a separate fast food facility. This layout shows the versatility and expandability of the open square serving line and main kitchen arrangement. The capacity of the dining area is easily increased by enlarging the serving area and by providing more dining area. The spatial arrangement of the kitchen permits the addition of a 160 seat fast food operation. Of course, the seating capacity (Figure 4) can be adjusted to match individual demands. As with the smaller 320 seat dining hall, this larger 780 seat dining hall (fast food seating excluded) utilizes the same scullery, restrooms, and exiting layout.

Dining Hall "C" - 1100 Seats

This high volume feeding facility of 1100 seats demonstrates the flexibilty and advantages of utilizing two separate open square servery systems

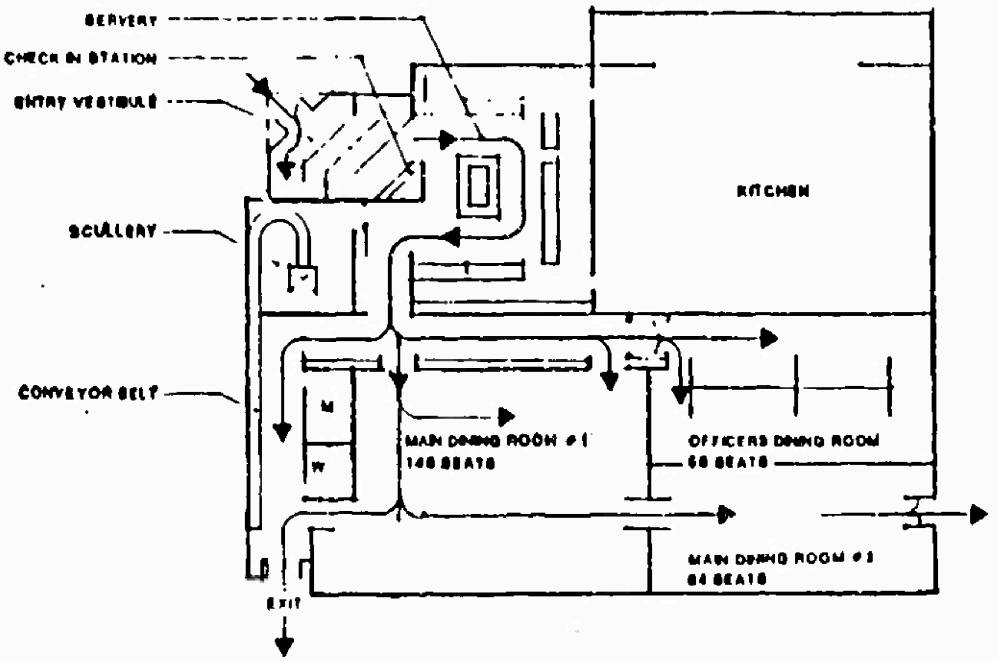

Figure 1. Dining Hall "A" Customer Flow Diagram.

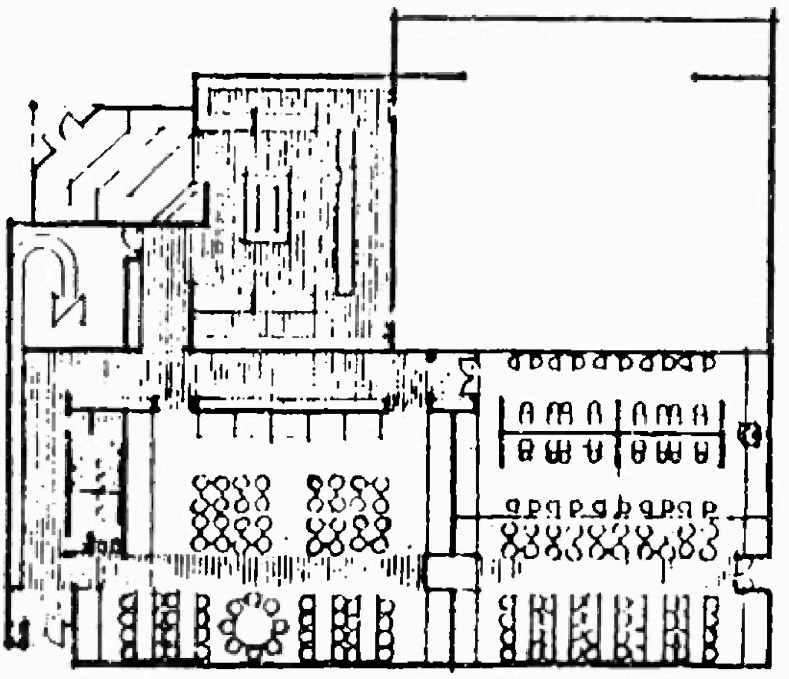

Figure 2. Dining Hall "A" Seating Plan.

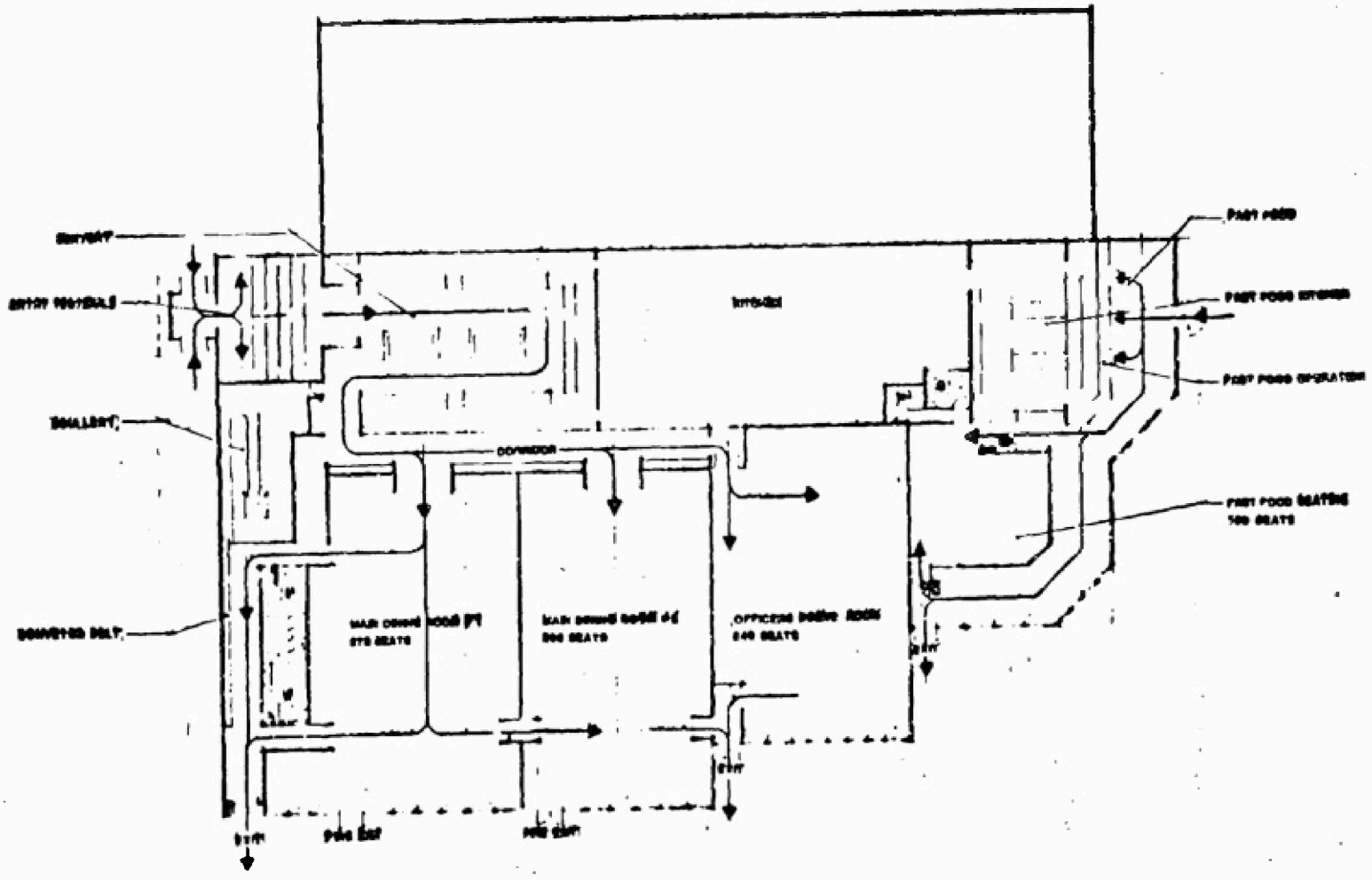

Figure 3. Dining Hall "B" Customer Flow Diagram.

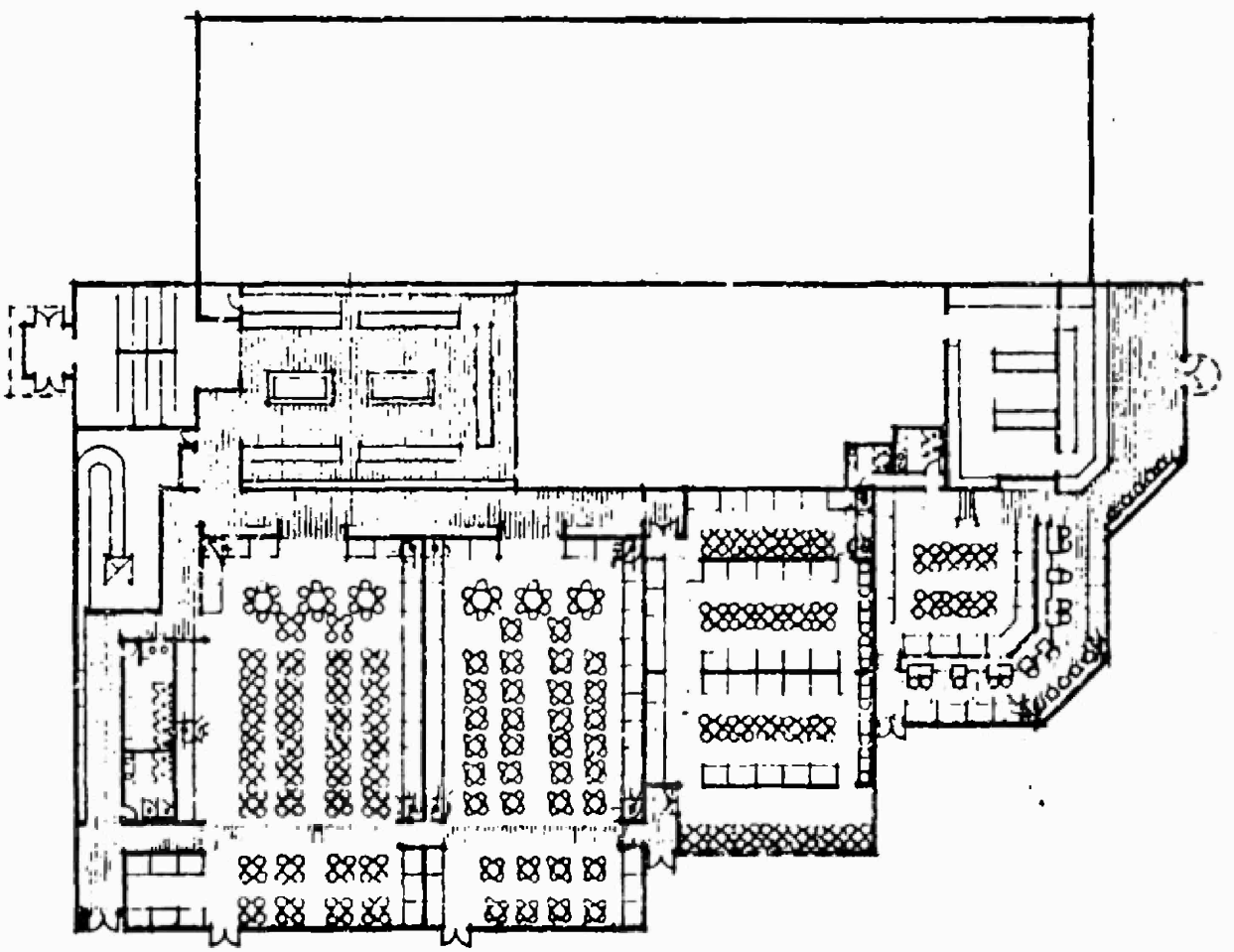

Figure 4. Dining Hall "B" Seating Plan.

(Figures 5 and 6). During peak loads, both serveries can easily accommodate over 3500 people within 1 hour. During slow periods, such as on the weekends, one servery can shut down and permit the other servery to feed everyone.

The massive dining hall is subdivided into five smaller and more manageable dining rooms, one of which is reserved for officers that is readily accessible from both serveries. A large central corridor links both serveries, thus allowing clean circulation from one to the other. By comparison, existing mess hall layouts that have two serveries cut the dining hall into two separate entities. Circulation from one dining hall to the other cannot be accomplished without crossing traffic with serving lines and the entry.

The dining rooms offer different seating groups and types. The mixture of booths, four tops and six tops, lend variety and breaks the monotony of this large dining hall.

Once again, the circulation and convenient location of the restrooms, scullery, and exit are identical to that of the 320 seat dining hall scheme. All that has changed is the scale of the facility.

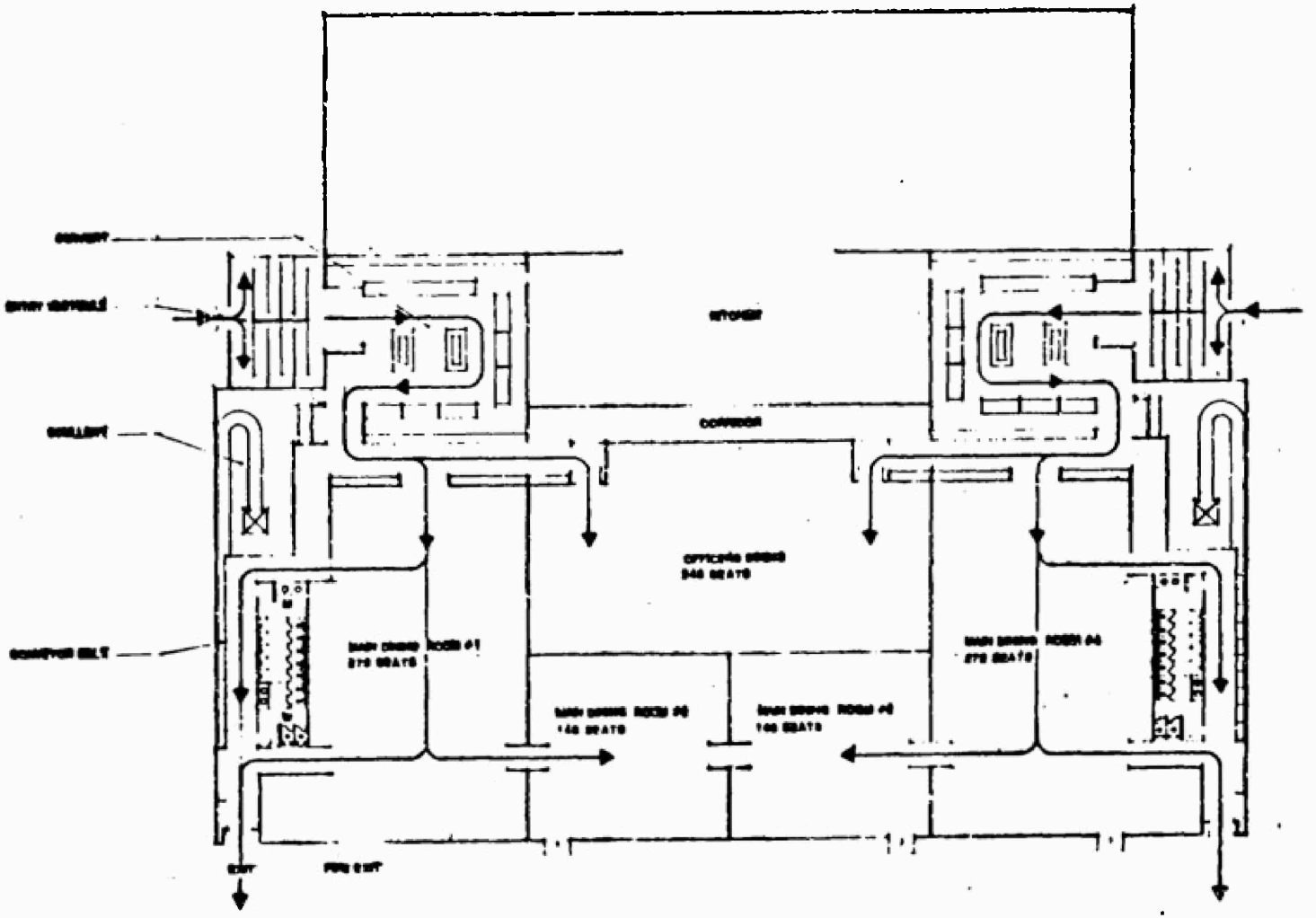

Figure 5. Dining Hall "C" Customer Flow Diagram.

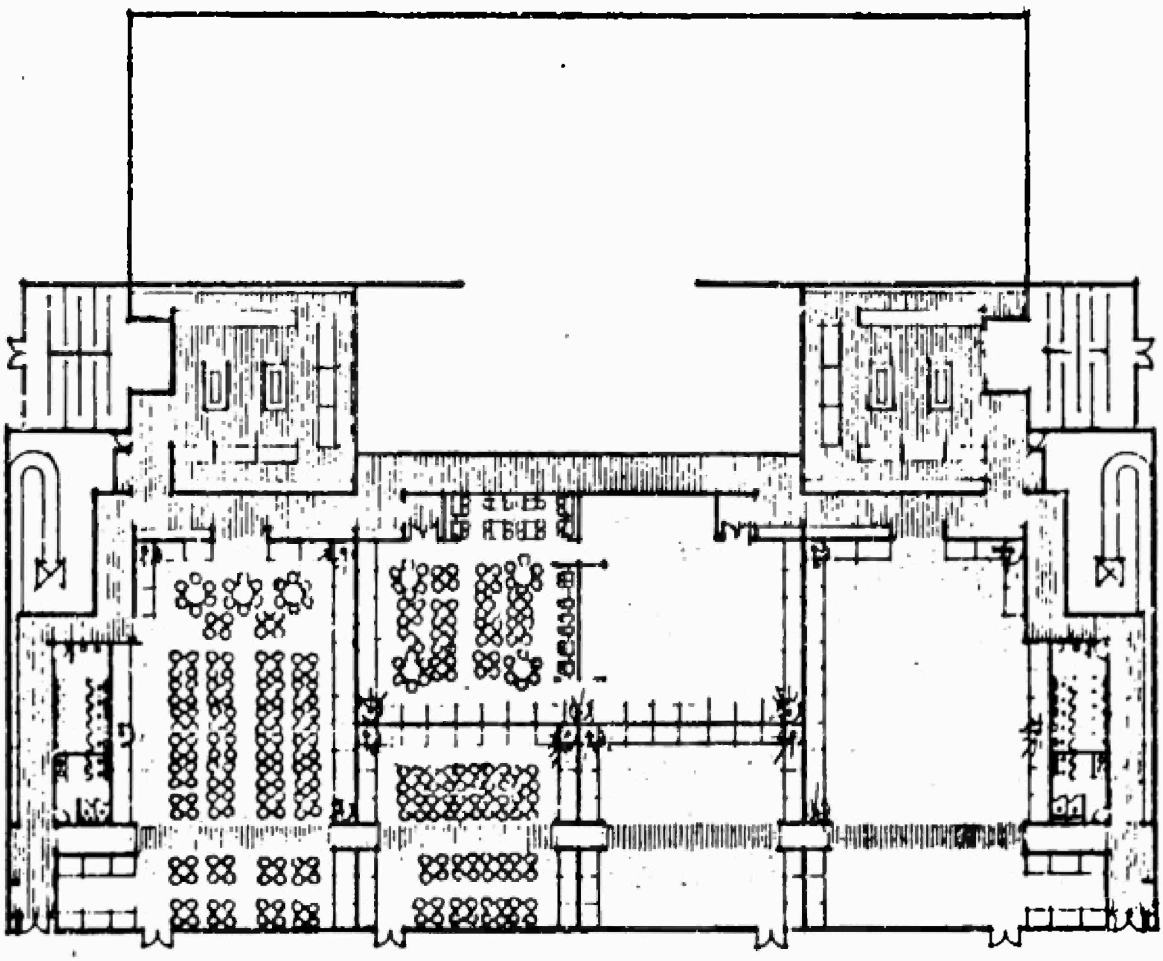

Figure 6. Dining Hall "C" Seating Plan.

PROPOSED KITCHEN LAYOUTS

In conjuction with the dining hall schemes, proposed kitchen and servery layouts were done to complete the three models: A-320 seat, B-940 seat, and C-1100 seat. The kitchen layouts were done with three specific areas of consideration as the focus of the designs:

- adequacy of work space,
- minimization of unneeded employee "crossover" and unproductive movement, and
- serviceability of the clientele.

The plans that follow accentuate these three important areas of design conceptualization.

The four layouts presented include kitchen designs for the three dining halls using a hollow square system. Plan A (Figure 7) represents the kitchen layout to accompany dining hall A - the 320 seat facility. Plan B/C (Figure 8) is a basic layout for both the 940 and 1100 seat dining halls. From a kitchen equipment perspective, the 940 and 1100 seat plans differ only in terms of the types of food service operations. The 940 seat plan utilizes one hollow square and one fast food operation while the 1100 seat plan calls for two hollow squares. This plan represents the left half of either dining facility. The right side of the plan depends on whether the fast food or the second hollow square is utilized. The second hollow square for the 1100 seat facility is the reverse of plan B/C. In this way, this plan depicts the critical elements of the main kitchen and how they relate to the other components. The fast food component (940 seat) is represented by plan D (Figure 9). The dotted line on plan D is the overlap point. Plan E (Figure 10) is the scullery which would accompany plan B/C.

Equipment tearsheets are not included because they were used only for spatial sizing of equipment, not load requirements or specific equipment selections. Equipment capacities and energy requirements vary considerably from one manufacturer to the next, and loads change with each new model that comes off the assembly line. However, putting the kitchen plans out to equipment suppliers for examination, recommendations, and pricing will provide information on the newest models available and the opportunity for correcting any deficiencies in equipment sizing. Although provisions have been made for storage of minor equipment and utensils no list has been provided. This is usually not completed until further on in the design stage. Also, most of the reputable equipment suppliers maintain "build to" lists of utensils, flatware, china, etc. to recommend to clients.

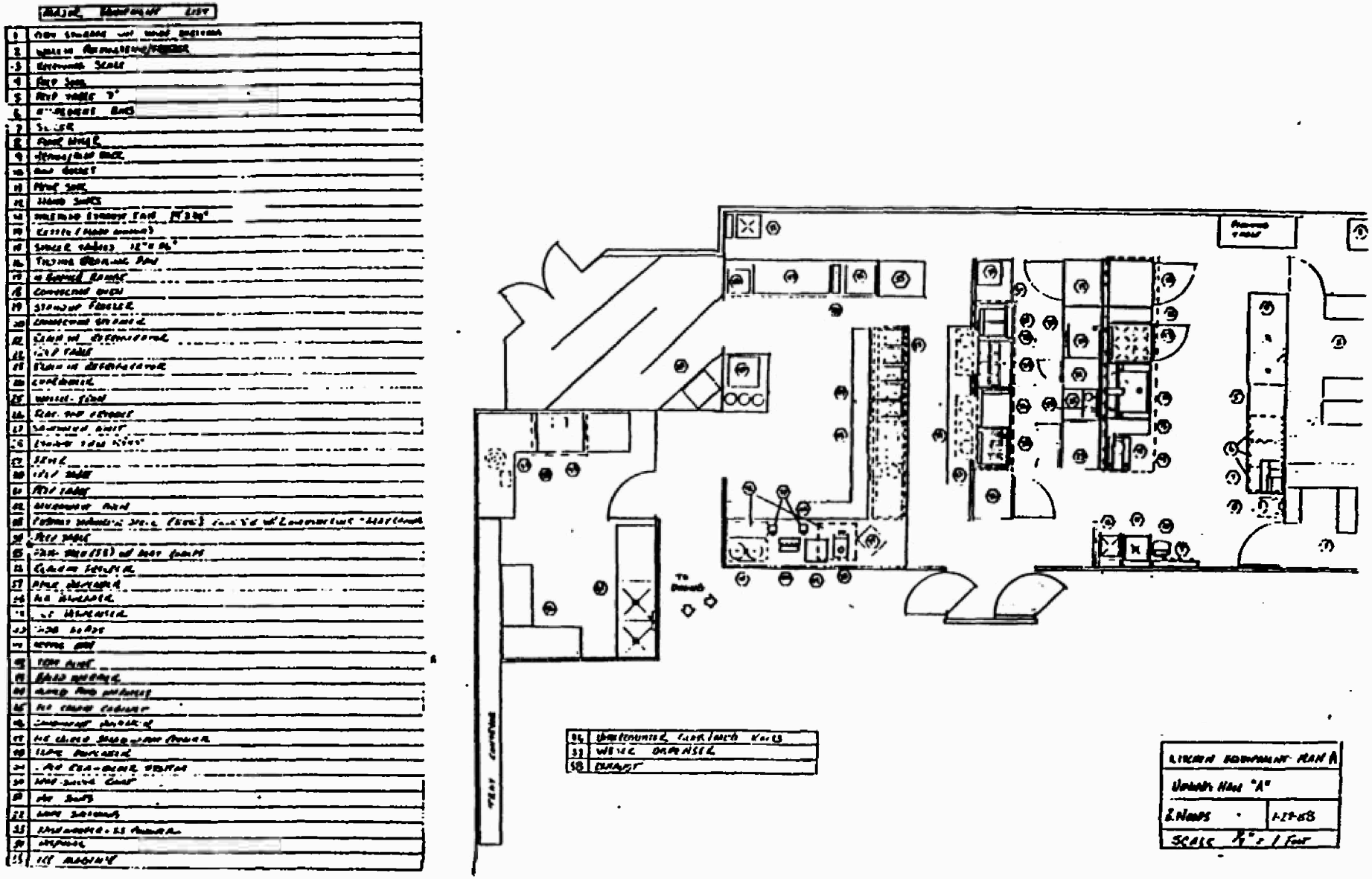

Figure 7. Dining Hall "A" Kitchen Equipment Plan.

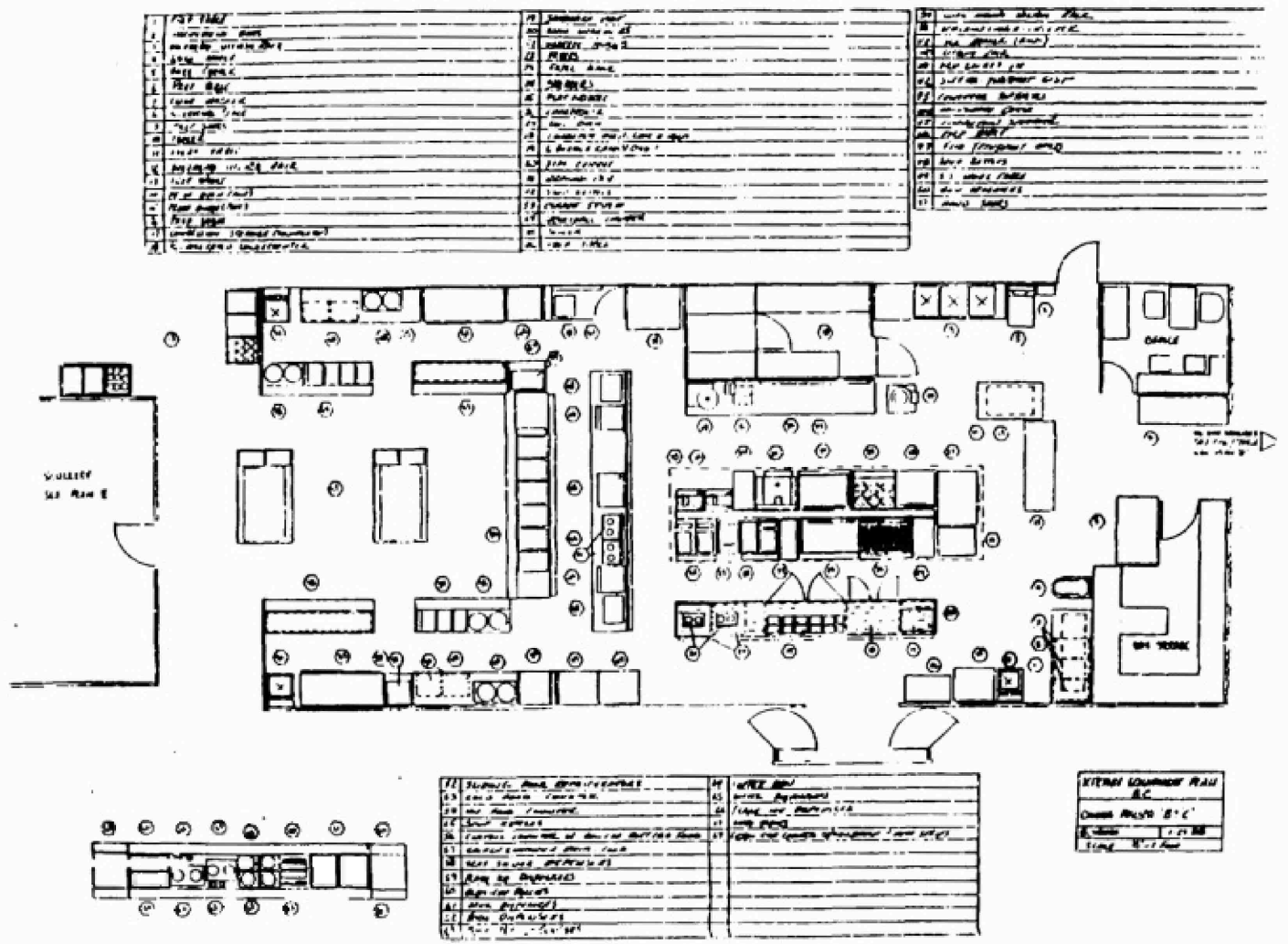

Figure 8. Dining Halls "B" and "C" Kitchen Equipment Plan.

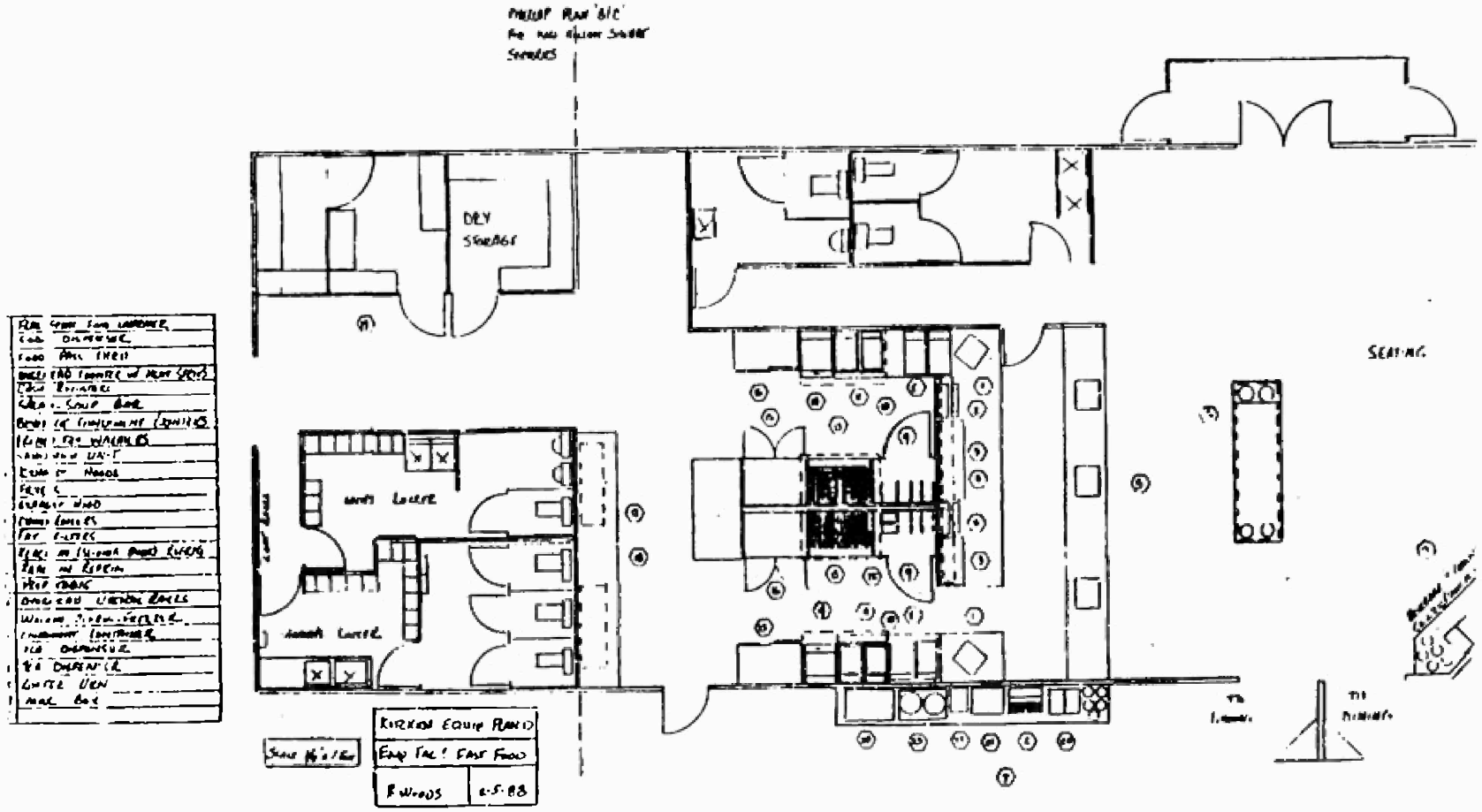

Figure 9. Fast Food Kitchen Equipment Plan.

EQUIPMENT LIST

1	CONVEYOR SYSTEM
2	CLEAN DISH RACKS -
3	CLEAN DISH TABLE
4	DISPOSAL
5	DIRTY DISH TABLES
6	DISH SPRAY SINK
7	DISHWASHER
8	POT SINKS
9	EXHAUST
10	CLEAN FLATWARE RACKS
11	
12	

SCULLERY PLAN (E)	
DINING HALLS B & C	
B. HOOPS	2-6-88

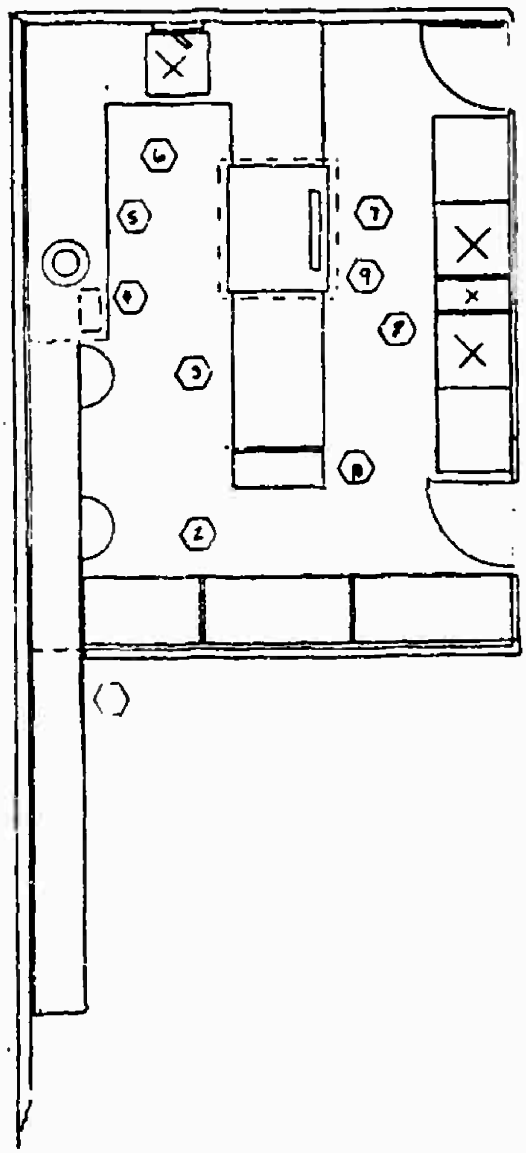

Figure 10. Dining Halls "B" and "C" Scullery Plan.

PROPOSED DECOR SCHEMES

The four decor schemes all intend to achieve a comfortable, restaurant quality, look and feel rather than a harsh, institutional one. The concept of the decor in each case is to create the mood and perception of eating in a dining hall rather than in a mess hall. The generous use of light, earth tone colors creates a warm, natural atmosphere in the dining halls, offering a welcome escape from the existing cold and dreary decors.

The two main dining room schemes, the officers' club and the fast food, are all based on a simple contemporary design which aims for a sense of timelessness. The use of decor themes like a pub or ski lodge were intentionally avoided since such motifs have an extremely short life span of approximately 3 to 5 years because they also often elicit an "either/or" response; that is, you either hate it or you love it.

Instead, these decor proposals are meant to be pleasing to as many Marines as possible by using furnishings and materials that are natural and comfortable. Each scheme avoids the extremes. They are neither too modern nor too old world. The colors are neither too heavy nor too pastel. Each scheme is timeless and will endure in appeal over the years.

Furthermore, each decor scheme ranks as high on function as it does on aesthetics. Nylon carpets are the most durable and economical of all carpets. Sturdy wood chairs and booths with naugahyde vinyl upholstery are able to withstand wear and tear and can be easily cleaned and maintained. Wood laminate plastic table tops and vinyl wallcovering are very tough and have long lives. Overall, each fabric and furnishing was selected with visual appeal, cleanability, and durability in mind.

Main Dining Room

Two decor schemes were developed for the main dining room. While both specify the same chairs and furnishings, one is intended for dining halls located in the colder northern region and one is for the hotter and drier southwestern region.

Northern Scheme. This decor is anchored by a rich, warm carpet that complements the north's seasons and weather (Figure 11). The beige tile for the major circulation areas and corridors complement the warm tan upholstery. The light tan wallcovering keeps the room from becoming too dark and heavy during the summertime. The wood chairs and wood tabletops, where budget allows, mantains a sense of comfort and well-being. The combination of real and plastic plants contributes color and life to the dining hall.

Figure 11. Northern Decor Scheme.

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (North)
DATE: May 1988

SOURCE:

MANUFACTURER:
Nevamar Decorative Laminates
950 W. 12th Street
Long Beach, CA 90813

(800) 638-4380
Linda Sullivan

MODEL No.: S-2-30T

DIMENSIONS:

NOTES:

Color: Biscuit/Textured (sample available at HQUSMC Quantico, VA)

Quantity [_____]

Item [Table Top]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (North)
DATE: May 1988

SOURCE:

MANUFACTURER:

Lightolier
501 W. Walnut Street
Compton, CA 90220

(213) 637-1811
Florence Cahn

MODEL No.: 13652

DIMENSIONS:

NOTES:

Overhead Lighting

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Overhead Lighting]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (North)
DATE: May 1988

SOURCE:

MANUFACTURER:

Lightolier
501 W. Walnut Street
Compton, CA 90220

(213) 637-1811
Florence Cahn

MODEL No.: 4433

DIMENSIONS: 14"d 12'h 56" Ht overall

NOTES:

Finish: Polished brass finish lampholder at 75w maximum

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Overhead Lighting]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (North)
DATE: May 1988

SOURCE:

Emser Tile International

MANUFACTURER:

Emser Tile International
8431 Santa Monica Blvd.
Los Angeles, CA 90069-4294

(213) 654-3190
Ian Street

MODEL No.: TP-40

DIMENSIONS:

NOTES:

Color: Off white heavy duty floor covering (sample available at HQUSMC Quantico, VA)

Quantity [_____]

Item [Floor/Hallway]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (North)
DATE: May 1988

SOURCE:

MANUFACTURER:

Advance West, Inc.
15933 Arminta
Van Nuys, CA 91406

(800) 824-2124

MODEL No.: 5921

DIMENSIONS:

NOTES:

Pattern: Hamden/Random match

(sample available at HQUSMC Quantico VA)

Quantity [_____]

Item [Wall covering]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (North)
DATE: May 1988

SOURCE:

MANUFACTURER:

Bentley Carpet Mills
City of Industry, CA 91747

(714) 598-9768

MODEL No.: Mini Aberdeen 50 oz.

DIMENSIONS:

NOTES:

Color: Custom skein dyed, dark grey and light grey

Content: 100% Antron XL (12 ft)

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Carpet]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (North)
DATE: May 1988

SOURCE:

The Scheffey Group, Inc.
21 West Dayton
Pasadena, CA 91105

(213) 681-1900
John Scheffey

MANUFACTURER:

Lowenstein/Oggo
1801 N. Andrews Ave. Ext.
Pompano Beach, FL 33069

(305) 960-1100

MODEL No.: 201

DIMENSIONS: 19"w 18 1/2"d 31 1/2"H 18"S.H.

NOTES:

Finish: Honey Oak

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Side chair]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (North)
DATE: May 1988

SOURCE:

The Scheffey Group, Inc.
21 West Dayton
Pasadena, CA 91105

(213) 681-1900
John Scheffey

MANUFACTURER:

Lowenstein/Oggo
1801 N. Andrews Ave. Ext.
Pompano Beach, FL 33069

(305) 960-1100

MODEL No.: Us - 430

DIMENSIONS:

NOTES:

Content: Grade A Naugahyde

Color: Blackberry

(sample available at HQUSMC Quantico, VA)

Quantity [_____]

Item [Chair upholstery]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: APM87-22(II)
AREA: Dining Room (North)
DATE: May 1988

SOURCE:

Shelby Williams Co.
8687 Melrose Ave.
Los Angeles, CA 90069

(213) 657-8687
Vic Ceren

MANUFACTURER:

Shelby Williams Co.

MODEL No.: 81 - 560

DIMENSIONS: 2'h 4'l 2'S.H.

NOTES:

Single (end) Booth.

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Booth seating]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (North)
DATE: May 1988

SOURCE:

The Scheffey Group, Inc.
21 West Dayton
Pasadena, CA 91105

(213) 681-1900
John Scheffey

MANUFACTURER:

Lowenstein/Oggo
1801 N. Andrews Ave. Ext.
Pompano Beach, FL 33069

(305) 960-1100

MODEL No.: Chamois

DIMENSIONS:

NOTES:

Content: 100% Vinyl Grade A Abano

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Booth upholstery]

Item No. [_____]

Southern Scheme. For those dining halls located down south where the climate is hot and dry, a decor which is cool, simple and clean is most appropriate. To facilitate purchasing and inventory, the same type of floor tile, table and chair specified in the northern scheme are used in this scheme. However, an entirely different look and mood is acheived by using different upholstery, carpet, and wallcovering.

Here, in Figure 12, the main color is a cool, refreshing green carpet and a deep green seating upholstery set against a very light and neutral wallcovering which has a hint of green in it. The dramatic contrasts between the intense greens and the beige tile floor and light walls create a crisp, clean atmosphere which is very relaxing and comfortable. The decor is a welcome retreat from the year-round heat. Furthermore, decorative lighting fixtures over the booths add sparkle as well as warmth in the dining room.

Figure 12. Southern Decor Scheme.

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (South)
DATE: May 1988

SOURCE:

MANUFACTURER:

Laminart
6033 W. Century Blvd.
Los Angeles, CA 90045

(213) 410-9033
Bill Landeen

MODEL No.: 812 - T

DIMENSIONS:

NOTES:

Antique White Textured

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Table top]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (South)
DATE: May 1988

SOURCE:

MANUFACTURER:

Lightolier
501 W. Walnut Street
Compton, CA 90220

(213) 637-1811
Florence Cahn

MODEL No.: 13652

DIMENSIONS:

NOTES:

Overhead Lighting

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Overhead lighting]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (South)
DATE: May 1988

SOURCE:

MANUFACTURER:

Lightolier
501 W. Walnut Street
Compton, CA 90220

(213) 637-1811
Florence Cahn

MODEL No.: 4433

DIMENSIONS: 14"d 12'h 56"Ht overall

NOTES:

Finish: Polished brass finish lampholder 75w maximum.

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Overhead lighting]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (South)
DATE: May 1988

SOURCE:

Emser Tile International

MANUFACTURER:

Emser Tile International
8431 Santa Monica Blvd.
Los Angeles, CA 90069-4294

(213) 654-3190
Ian Street

MODEL No.: TP - 40

DIMENSIONS:

NOTES:

Off white heavy duty floor covering

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Floor/Hallway]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: ArM87-22(II)
AREA: Dining Room (South)
DATE: May 1988

SOURCE:

MANUFACTURER:

Advance West Inc.
15933 Arminta Street
Van Nuys, CA 91406

(818) 785-9434

MODEL No.: 5915 - 5

DIMENSIONS:

NOTES:

Pattern: Stoneham (1.94" Repeat)

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Wall covering]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: APM87-22(II)
AREA: Dining Room (South)
DATE: May 1988

SOURCE:

Shelby Williams Co.
8687 Melrose Ave.
Los Angeles, CA 90069

(213) 657-8687
Vic Ceren

MANUFACTURER:

Shelby Williams Co.

MODEL No.: 81 - 560

DIMENSIONS: 2'h 4'1 2'S.H.

NOTES:

Single (end) Booth

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Booth seating]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (South)
DATE: May 1988

SOURCE:

MANUFACTURER:

American Contract Technology
Hickory, North Carolina

MODEL No.: DF - 01

DIMENSIONS:

NOTES:

Color: Soft Camel

Content: Duro Plannel 4-54"

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Booth upholstery]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (South)
DATE: May 1988

SOURCE:

The Scheffey Group, Inc.
21 West Dayton
Pasadena, CA 91105

(213) 681-1900
John Scheffey

MANUFACTURER:

Lowenstein/Oggo
1801 N. Andrews Ave. Ext.
Pompano Beach, FL 33069

(305) 960-1100

MODEL No.: 201

DIMENSIONS: 19"w 18 1/2"D 31 1/2"H 18"S.H.

NOTES:

Finish: Honey Oak

(sample available
at HQ USMC
Quantico, VA)

Quantity [_____]

Item [Side chair]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: APM87-22(II)
AREA: Dining Room (South)
DATE: May 1988

SOURCE:

MANUFACTURER:

American Contract Technology
Hickory, North Carolina

MODEL No.: DF - 01

DIMENSIONS:

NOTES:

Color: Ocean Spray Gray 54"w

(sample available
at HQ USMC
Quantico, VA)

Quantity [_____]

Item [Side chair uphlstry.]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Dining Room (South)
DATE: May 1988

SOURCE:

MANUFACTURER:

Commercial Flooring Assoc.
310 Washington Blvd.
Marina Del Rey, CA 90292

(213) 827-7574
Helen Marcus

MODEL No.: 4234

DIMENSIONS:

NOTES:

Renoir

Color: Moonbeam

Contents: DuPont Antron III

(sample available
at HQ USMC
Quantico, VA)

Quantity [_____]

Item [Carpet]

Item No. [_____]

Officers' Dining Area

The finishes, materials, and furnishings for the officers' dining area are very rich, strong, and masculine without being heavy or drab. The decor is very sleek, sharp, and contemporary. A deep mahogany finish is used on the chairs as well as on the table. If the budget does not allow for wood tables, than a suitable laminate plastic top can be substituted.

The black vinyl seat upholstery for the chairs are extremely handsome but very durable. The booths also have black vinyl upholstery for the seat and have a warm grey velour back for added richness and sophistication. The off-white paint for the walls provides a striking backdrop and counter balance to the mahogany and ebony seating.

The burgundy patterned carpet is traditional and perfectly enhances the decor. The finishing touch to this contemporary, masculine scheme is a streamlined brass finish lamp hanging over the booths to add that extra warmth and sophistication to the dining area.

Figure 13. Officers' Dining Area Decor Scheme.

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Officer Dining Area
DATE: May 1988

SOURCE:

MANUFACTURER:

Trend Lighting
2700 Sidney Street
St. Louis, MO 63104

(314) 773-1340

MODEL No.: 4624

DIMENSIONS: 22"d X 7"h

NOTES:

Black cord 36" O.A. Lgt.
100w medium base lamp
Finish: Polished brass

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Overhead lighting]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Officer Dining Area
DATE: May 1988

SOURCE:

MANUFACTURER:

Benjamin Moore Paints
3325 S. Garfield Ave.
Los Angeles, CA 90040

(213) 722-3484
Will Miller

MODEL No.: OW - 17

DIMENSIONS:

NOTES:

Off White

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [_____Paint_____]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Officer Dining Area
DATE: May 1988

SOURCE:

MANUFACTURER:

Harbinger
8530 Wilshire Blvd.
Suite 302
Beverly Hills, CA 90211

(213) 659-8015
John Lininger

MODEL No.: Rebac Design

DIMENSIONS:

NOTES:

Pattern: Skip
Content: 100% Antron
Color: 283, 239, = cut
201 = loops

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Carpet]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Officer Dining Area
DATE: May 1988

SOURCE:

Shelby Williams Co.
8687 Melrose Ave.
Los Angeles, CA 90069

(213) 657-8687
Vic Ceren

MANUFACTURER:

Shelby Williams Co.

MODEL No.: 81 - 560

DIMENSIONS: 2'-10"H 4'L 2"S.H.

NOTES:

Single (end) Booth

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Booth]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: APM87-22(II)
AREA: Officer Dining Area
DATE: May 1988

SOURCE:

MANUFACTURER:

American Contract Technology
Hickory, North Carolina

MODEL No.: DF - 01

DIMENSIONS:

NOTES:

Booth Seat Upholstery
Color: Black - 14 - 54"
Content: Duro Flannel Knit
back PVC expanded.

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Booth seat only]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Officer Dining Area
DATE: May 1988

SOURCE:

Shelby Williams Co.
8687 Melrose Ave.
Los Angeles, CA 90069

(213) 657-8687
Vic Ceren

MANUFACTURER:

Shelby Williams Co.

MODEL No.: 42 Dove/Gray

DIMENSIONS:

NOTES:

Grade 10
Content: 100% Wool face
latex backing
54"w

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Booth backing]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Officer Dining Area
DATE: May 1988

SOURCE:

The Scheffey Group, Inc.
21 West Dayton
Pasedena, CA 91105

(213) 681-1900
John Scheffey

MANUFACTURER:

Lowenstein/Oggo
1801 N. Andrews Ave. Ext.
Pompano Beach, FL 33069

(305) 960-1100

MODEL No.: 203

DIMENSIONS:

NOTES:

Wood Finish: Victorian Mahogany

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Side Chair]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: APM87-22(II)
AREA: Officer Dining Area
DATE: May 1988

SOURCE:

The Scheffey Group, Inc.
21 West Dayton
Pasedena, CA 91105

(213) 681-1900
John Scheffey

MANUFACTURER:

Lowenstein/Oggo
1801 N. Andrews Ave. Ext.
Pompano Beach, FL 33069

(305) 960-1100

MODEL No.: Burgundy / Delfino

DIMENSIONS:

NOTES:

Grade D Delfino
Content: 75% Wool 25% Nylon
59"/60"w

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Side chair upholstry

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Officer Dining Area
DATE: May 1988

SOURCE:

MANUFACTURER:

Johnson Industries, Inc.
Elgin, IL 60120

(312) 695-1242

MODEL No.:

DIMENSIONS:

NOTES:

Quantity [_____]

Item [Table base]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: APM87-22(II)
AREA: Officer Dining Area
DATE: May 1988

SOURCE:

MANUFACTURER:

Wilsonart Decorative Laminate
Ralph Wilson Plastics Co.
13911 E. Gannet Street
Santa Fe Springs, CA 90670

(213) 771-8141

MODEL No.: 7039 - 13

DIMENSIONS:

NOTES:

Color: Windsor Mahogany

Quantity [_____]

Item [Table top]

Item No. [_____]

Fast Food

The colors and furnishings are vibrant, fresh, and natural. The liberal use of blue and white tile for the floors keep the decor light and energetic. The combination of red and blue vinyl upholstery for the chairs and booths add splashes of color. The striped tan vinyl wallcovering complements and tempers the bold reds and blues. Sleek metal lampshades for decorative lighting over the four tops add sparkle, fun, and variety to this fast-paced operation.

On the upper dining level, a lively red or blue carpet inset offer a matching companion to the tile floor. Realistic plants and planters sprinkled throughout the dining area keeps the decor colorful and healthy.

Figure 14. Fast Food Decor Scheme.

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

MANUFACTURER:

Lightolier
501 W. Walnut Street
Compton, CA 90220

(213) 637-1811
Fiorence Cahn

MODEL No.: 5568

DIMENSIONS: 14"d 8 1/4"h 54" overall

NOTES:

150w maximum.
Wide and shallow with light frill ring

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Overhead light Opt.1]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

MANUFACTURER:

Lightolier
501 W. Walnut Street
Compton, CA 90220

(213) 637-1811
Florence Cahn

MODEL No.: 40561

DIMENSIONS: 12"d 11 3/4"h 54" overall

NOTES:

100w maximum
A19, G25, or G40 Frosted recommended
Sleek shade with smoothly turned bottom edge
Color: Deep Red with translucent opal interior

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Overhead light Opt.2]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: APM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

Shelby Williams Co.
8687 Melrose Ave.
Los Angeles, CA 90069

(213) 657-6680
Vic Ceren

MANUFACTURER:

Shelby Williams Co.

MODEL No.. 2250

DIMENSIONS:

NOTES:

Series wood mounted bases

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Counter table base]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

MANUFACTURER:

Johnson Industries, Inc.
Elgin, IL 60120

(312) 695-1242

MODEL No.: J - 95

DIMENSIONS:

NOTES:

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Freestand Table base]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

Nevamar Decorative Laminates
950 West 12th Street
Long Beach, CA 90813

(213) 404-1274
(800) 638-4380

MANUFACTURER:

Nevamar

MODEL No.: W - 8 - 94T Text.

DIMENSIONS:

NOTES:

Natural Butcher Block Table/Counter tops - SG

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Table/Counter tops]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

The Scheffey Group, Inc.
21 West Dayton
Pasadena, CA 91105

(213) 681-1900
John Scheffey

MANUFACTURER:

Lowenstein/Oggo
1801 N. Andrews Ave. Ext.
Pompano Beach, FL 33069

(305) 960-1100

MODEL No.: 207

DIMENSIONS: 16"w 16 1/2"d 33"h 25"S.H.

NOTES:

Counter Stool
Natural Wood Finish

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Counter stool]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

MANUFACTURER:

American Contract Technology
Hickory, North Carolina

MODEL No.: DF - 01 - SKY

DIMENSIONS:

NOTES:

Concetta Counter stool upholstery by Lowenstein/Oggo
Color: Blue 16-54
Flame retardant

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Stool upholstery]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

The Scheffey Group, Inc.
21 West Dayton
Pasadena, CA 91105

(213) 681-1900
John Scheffey

MANUFACTURER:

Lowenstein/Oggo
1801 N. Andrews Ave. Ext.
Pompano Beach, FL 33069

(305) 960-1100

MODEL No.: 205

DIMENSIONS: 17"w 19"d 31 1/2"h 18"S.H.

NOTES:

Concetta Side Chair
Natural Wood Finish

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Side chair]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

The Scheffey Group, Inc.
21 West Dayton
Pasadena, CA 91105

(213) 681-1900
John Scheffey

MANUFACTURER:

Lowenstein/Oggo
1801 N. Andrews Ave. Ext.
Pompano Beach, FL 33069

(305) 960-1100

MODEL No.: Majolica Blue

DIMENSIONS:

NOTES:

Grade A Abano
100% Vinyl

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Side chair upholstry]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

Shelby Williams Co.
8687 Melrose Ave.
Los Angeles, CA 90069

(213) 657-8687
Vic Ceren

MANUFACTURER:

Shelby Williams Co.

MODEL No.: 81 - 555

DIMENSIONS: 3'h 4'l 1 1/2'S.H.

NOTES:

Single (end) Booth
Wide vertical channels.
Straight upholstered crumb

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Booth]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: APM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

Shelby Williams Co.
8687 Melrose Ave.
Los Angeles, CA 90069

(213) 657-8687
Vic Ceren

MANUFACTURER:

Shelby Williams Co.

MODEL No.: NEO - 28

DIMENSIONS:

NOTES:

Color: Salmon
Content: Naugahyde

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Booth upholstery]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

Emser Tile International

MANUFACTURER:

Emser Tile International
8431 Santa Monica Blvd.
Los Angeles, CA 90069-4294

(213) 654-3190
Ian Street

MODEL No.: E1 - 251

DIMENSIONS: 3"x3" or 12"x12"

NOTES:

Color: Cobalt Blue
Application: Counter tops and Walls

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Counter tops]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

MANUFACTURER:

Advance West Inc.
15933 Arminta Street
Van Nuys, CA 91406

(818) 785-9434

MODEL No.: 5923 - 1

DIMENSIONS: 27"w 5 1/3" per roll

NOTES:

Vinyl wallcovering
Hamden stripe - Random match

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Wall covering]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: APM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

Clayburgh Company
2619 West Exposition Blvd.
Los Angeles, CA 90018
(213) 731-1441
John Clayburgh

MANUFACTURER:

Bremworth
New Zealand Wool Carpets

MODEL No.: Cosmo/5420

DIMENSIONS:

NOTES:

Color: 81/5420 Terrestrial Blue
Content: 80% Wool 20% Nylon

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Carpet option]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: APM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

Clayburgh Company
2619 West Exposition Blvd.
Los Angeles, CA 90018

(213) 731-1441
John Clayburgh

MANUFACTURER:

Bremworth
New Zealand Wool Carpets

MODEL No.: Cosmo/5420

DIMENSIONS:

NOTES:

Color: 61/5420 Comet Red
Content: 80% Wool 20% Nylon

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Carpet option]

Item No. [_____]

SPECIFICATION

PROJECT: Marine Corps Dining Concepts in the 1990's.
PROJECT No.: AFM87-22(II)
AREA: Fast Food Area
DATE: May 1988

SOURCE:

Emser Tile International

MANUFACTURER:

Emser Tile International
8431 Santa Monica Blvd.
Los Angeles, CA 90069-4294

(213) 654-3190
Ian Street

MODEL No.: EW

DIMENSIONS:

NOTES:

Gloss White Tile for heavy duty commercial floor use.

(sample available
at HQUSMC
Quantico, VA)

Quantity [_____]

Item [Floor]

Item No. [_____]

APPENDIX A.

Selecting the Renovation Team

APPENDIX A.

Selecting the Renovation Team

ADVANTAGES OF OUTSIDE CONSULTANTS

The advantages of utilizing an outside design team versus an in-house one are significant. First, architects, interior designers, and consultants from the private sector have much more experience in quantity food production. Consultants from the private sector do not need to conduct extensive research. Rather, they are the source and generator of research material, not the pursuer.

Although military feeding has been around just as long as commercial feeding, each were born into different circumstances. As a result, mess halls have failed to evolve like their commercial counterparts. Military feeding is stunted and stagnant, while feeding in the private sector is responsive to change and new ideas.

Today's mess halls look and operate much the same way as mess halls of 30 or 40 years ago. On the other hand, commercial dining operations display state-of-the-art excellence in functional as well as aesthetic areas including food quality, speed of service, kitchen facilities, dining environment, perception of value, durability, ease of maintenance, and in energy savings and labor productivity and efficiency.

Why the vast differences in quality between military and commercial volume feeding? One primary reason rests with the different purposes of each sector. For a mess hall, the reason for existence is to quickly provide sufficient nourishment to its thousands of officers and enlisted personnel while adhering to a strict budget. Over the past three or four decades, the Marine dining facilities have successfully fulfilled this purpose. However, factors such as the quality of the eating environment and the visual and palatable appeal of the food served have been overlooked and neglected.

Private feeders, like the military, have a similar purpose. Corporate dining halls, college and institutional feeding, and commercial cafeterias must also quickly provide food to a large volume of people within a strict budget. The similarities, however, end there. Private feeders operate in an everchanging environment, while the military mess halls operate in a sheltered equilibrium. Private feeders do not have the luxury of catering to a captive market as does the military. Competition within the private sector has forced vendors to create better menus and dining environments while maintaining low prices. The proliferation of good, inexpensive eating alternatives that are easily accessible from the workplace have forced the private feeder to constantly evolve to find cheaper, quicker, and better ways to operate and survive. Food quality, presentation, and merchandising are constantly improving as customers become more discriminating.

Another major distinction between public and private feeding concerns philosophy. Unlike the military, corporate feeders view their dining halls as a tool to boost employee morale and productivity. Today, a significant number of corporations recognize that the quality of the food and dining environment can directly affect an employee's attitude and performance. In fact, many corporations view their feeding operations as a vital and necessary fringe benefit to its employees. Only recently has the military begun to embrace the significant input that its mess halls can have on the morale of the Marines.

SELECTING THE OUTSIDE RENOVATION TEAM

The Members

The essential members of the team are the architect, interior designer, and kitchen consultant. Depending on the scope and complexity of the project, other consultants for lighting, landscaping, or acoustics may be retained. These three members should be contracted simultaneously so that they can work and coordinate continuously from start to finish to ensure that the final design is thorough and cohesive.

The Selection Criteria

There are numerous qualified food service architects, designers, and consultants in the industry. The selection criteria are as follows. First, examine their credentials and portfolios. Observe how many food service installations the firm has performed to determine the depth of his expertise. Look at the different types of operations installed to determine the breadth of their experience. Are the installations primarily small, independent restaurants or do they include fast food and volume feeding? In general, the greater the number and type of installations installed, the more qualified they are.

However, sheer quantity and variety of installations are not wholly sufficient criteria when selecting your outside team. The third and most important consideration concerns performance. That is, How well did they meet the goals specified by their clients? Did he obtain the desired dining atmosphere? Did he accomplish it within budget? Does the servery fulfill its intentions? Has the installation endured over the years? Did the interior designer select the most practical furnishings and material? These are just a few of the questions to be asked when evaluating the performance and success of prospective members of your outside renovation team.

The Local Renovation Team

The next question to be resolved is, How many renovation teams should be retained? Essentially, two choices can be made. The first choice is to select local consultants for each mess hall(s). Because they should be familiar with the idiosyncracies and demands of the region. The local consultant's understanding and fluency with the local architecture, climate, and conditions helps yield a renovation that will blend in with its environment rather than stand boldly out of context.

Also, a local design team can sometimes produce a product quicker and cheaper than a nationally designated team. A local architect's familiarity with the building and fire codes and with the building department can expedite the design and construction process. A local interior designer knows which materials are available locally and can save time and shipping costs by using local manufacturers and distributors. Both the architect and designer know how to use materials and design indigenous to the area and know how to best incorporate them into the renovation.

The advantages of selecting a local design team are many, but a few disadvantages exist. First, with hundreds of Marine mess halls scattered throughout the world, it can be a slow and lengthy procedure in establishing a method or committee to select these local consultants. Second, retaining a new team for each renovation means that a lot of money will be spent on consulting fees which probably will be cost-prohibitive for the Marines.

To consolidate and minimize fees, the Marines may select a local design team to be responsible for all mess halls statewide or for a given region.

The National Renovation Team

The alternative to the decentralized, local consultant concept is to select one team that will handle all renovations nationwide. The advantage of retaining one team is that it dramatically reduces the amount of coordination and complexity involved in overhauling the entire mess hall system. The Marines and the national consultant team would directly communicate with each other and eliminate several layers of paperwork and duplication. An omnibus contract can be made rather than creating and monitoring several smaller renovations at the local level.

Many architectural, interior design, and kitchen consulting firms have offices nationwide that are large enough to provide the depth and support of such an undertaking. These firms often have international offices to support overseas renovations. Selecting a core team from the private sector to renovate all mess halls can save time and money while achieving a level of consistency in quality and design.

Selecting one national team, however, is not without its drawbacks. One possible disadvantage is that the team might fall prey to the mass cookie cutter approach where a mess hall on the east coast looks exactly like another on the west coast. Each mess hall should retain some identity and relationship to its immediate surroundings and geographical location. The major factor that will influence how similar the mess halls will be is the budgetary guidelines established by the Marine Corps. If the budget is extremely tight, then the design team would be forced to choose a strict economies of scale approach and develop a multipurpose, generic prototype.

APPENDIX B.

Color

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Color

Atmosphere in a restaurant or food service facility is the total environment to which customers or users are exposed. It includes the physical environment, such as furnishings and decor.

Atmosphere in a food service facility is important because it directly affects the quality of the overall dining experience. Good food can taste unpleasant in an uncomfortable atmosphere. Conversely, poorly prepared food can be perceived as acceptable or enjoyable in an inviting and comfortable environment.

Besides furnishings and type of materials used, the major factors that influence the quality of the atmosphere in a dining facility are colors, acoustics, and lighting. These three basic elements conspicuously dictate whether an atmosphere is fun or boring, exciting or soothing. They are the basic tools a designer uses to shape a space's personality. Thus, it is important for the food service officer to understand how and why color, acoustics, and lighting can change the atmosphere of a dining facility. In doing so, he can 1) better understand the design proposals of a designer or architect, 2) critique these proposals and determine if they are appropriate for the dining facility, and 3) effectively communicate any design ideas to the designer or architect. Knowledge of how to manipulate these design elements assists in improving or renovating the dining hall.

THE DINING HALL

In his Architectural Handbook, Alfred Kemper states that "color is capable of awakening every human emotion. Certain colors and color-harmonies evoke unconscious but learned psychological reactions." It is one of the most powerful and effective means that a designer or planner can use to create different moods and atmospheres. Studies have found that color can be used to stimulate a variety of feelings, such as happiness, peacefulness, or hunger. It can also attract or dispel people from a dining room. Given that color can be an influental and inexpensive tool for you, it is important to understand the characteristics of colors and in how they can be used to create specific reactions.

Emotional Reactions to Colors

Extensive research has shown that certain colors elicit different emotions. It is known that red is associated with violence, danger, heat, and excitement. The exposure to red where it is a dominant color can produce physiological reactions as well. For example, increased blood pressure, quickened muscular reactions, and restlessness have been observed in people looking at red. Thus, for the Marine mess halls, the liberal use of red is not recommended. Red magnifies the crowdedness, noisiness, and heat in a dining facility. The desired mood should be peaceful and relaxing. The dining hall could be a welcome retreat from a Marine's intense schedule of daily activities.

A more appropriate color to create a feeling of calm and coolness is blue. It is relaxing and easy on the eyes. Green is similar to blue in that it has a tranquil effect and is often associated with trees, plants, and nature. A color scheme which includes blue and green would help establish a peaceful atmosphere in the mess hall.

Grey, on the other hand, is cold and very depressing if used by itself. Grey should always be combined with other colors and never be the dominant theme. Black is perceived as mysterious and/or oppressive. As with grey, black should be used conservatively to accent or complement the overall color scheme.

Yellow is a very cheerful, stimulating color that is happy and draws attention. The fact that people tend to be mentally and physically slow or depressed on gloomy, overcast days is no coincidence. The lack of yellow and red colors from the sun are partially responsible for the listless behavior people experience on these days.

Orange is similar to yellow and red in that it is also stimulating and is a warm color. Brown, another warm color, is considered relaxing and is often associated with natural, earthy feelings. Earth and leather browns create a masculine effect. The intense color of purple is associated with royalty and elegance and creates a feeling of graciousness. Pink is feminine, while white is considered clear and pure.

Some common color combinations produce familiar emotions and associations:

- The combination of violet, blue, blue-green, salmon, pink, and golden-orange mimics a sunset.
- To create loudness, a red, yellow, and purple combination is used.
- On the other hand, blues, greens, and lavender are quiet.
- To an American, red, white, and blue is patriotic.
- Red, orange and brown is autumn.

Color Classifications

The primary colors are yellow, red, and blue. They are called primaries because other colors are derived from combining these three colors. With large spaces, primary colors should be used as accents because they are so strong in their pure form.

Secondary colors are created when the primary colors are mixed with each other in pairs. Green is produced when blue and yellow are mixed together, orange by mixing red and yellow, and violet by mixing red and blue.

Intermediate colors are created when primary colors and secondary colors are mixed together. Red-orange, yellow-green, and blue-violet are examples of intermediate colors. Intermediate and secondary colors in the mess hall could be appropriate because they are less intense and bold then a color scheme based on primary colors.

Colors are also said to be warm or cool. Red, orange, yellow, and brown are considered warm in appearance and emotion. This can be explained by our association of these colors with warm objects such as the sun and fire. Colors considered to be cool are blue, green, white, and violet. Associating these colors with the cool, airiness of the sky, the refreshing green of plants and the coldness of snow and ice explain why these colors are perceived as cool.

The fact that some colors are warm and others are cool become important when the geographical location and climatic factors of a mess hall are considered. For example, a dining facility located in the heart of the south would probably adopt a color scheme, incorporating blues, greens, and violets and beiges. Likewise, a facility located in the northeast, warm colors such as reds, oranges, and yellows work best.

Using Color to Manipulate the Dining Environment

The hundreds of different colors and the thousands of different combinations that can be created give a designer tremendous flexibility. A list of the ways that color can be used to influence or control the dining area follows:

1. Foods appear best under warm colors like reds, browns, yellows, golds, and oranges.

2. Where fast service and high turnover are desired, warm colors should dominate the major areas.

3. Warm colors such as red or pink are flattering to people.

4. Cool colors such as green, grey, and blue tend to make food appear unappetizing and make people appear pale.

5. Light colors in small areas create the impression of size and spaciousness.

6. Dark colors can make large areas appear small.

7. Bright colors can bring attention to signs and features.

8. A monochromatic scheme can be boring or tiring to the eyes.

9. Dark ceiling colors lower the room's apparent height.

10. Light ceiling colors increase the room's apparent height.

11. Long rooms appear shorter when end walls are dark.

12. Subtle colors have soft, restful effects.

This list can be helpful in developing color-oriented solutions. For example, if a facility suffers from being long and narrow, painting the end walls a dark color such as brown will help alleviate this problem. This general list will help formulate color recommendations. Also, when an interior designer presents a proposed color scheme, these guidelines can be used to double check the appropriateness of a proposal to a dining facility.

Tips and Reminders

It is extremely important to remember that no color, no matter how pleasing, can stand on its own. Green is a very restful and cool color, but if it is not complemented with other colors, it can cause eye and body fatigue. With only one dominating color, a visual balance is lacking. People must look harder to distinguish objects because of the lack of contrast and depth caused by a sea of one color. At the same time, extreme and disturbing instances of contrast can exist when only one color is used. Whites and beiges are fairly neutral colors and can be used predominately.

Select colors under the same lighting conditions they will be subjected to in the facility. Colors vary with different types of fluorescents.

Another important point to remember is that colors shown on a small sample will appear brighter when applied to a larger surface. Thus, it might be wise to paint a portion of a wall to see how it will look.

THE KITCHEN

In the kitchen, light colors are almost always used because cooking, cutting, preparation, and other labor-intensive tasks requiring much dexterity are involved. These tasks and activities require high levels of illumination, and light colors reflect light more effectively than dark colors. As a result, light, subtle colors should be used for walls and ceilings. Floors are commonly a reddish-brown color. Quarry tile, a flooring material with excellent durability, cleaning, and wearing qualities, is usually available only in earth tones.

For the kitchen walls, research has shown that light green, soft yellow, and peach colors are best because they are pleasing and soothing. Workers are happier and more productive.

As mentioned in the previous section, a mixture of colors is preferable over the use of only one color. This principle holds true for the kitchen as well. Monochromatic schemes are void of visual interest and can be tiring on the eyes. Kitchens, especially large ones, can greatly benefit from using a gentle combination of colors to liven up what is otherwise a visually cold, hard, bright working environment. The variety of ceramic tiles makes it very easy to upgrade in the kitchen.

For example, a peach ceramic tile in conjunction with white can be used as the base color in the kitchen with a second color like a pale green used as an accent. A simple checkerboard pattern of the green tile at a chair rail height of 2' 10" or at a standing height of 5' 6" or as a border along the ceiling can enhance the visual interest in the kitchen at little or no extra cost. Using more than three colors which are too bright or dark can be overpowering and distracting in the kitchen.

While it is often chosen for kitchen walls because it is an easy and safe choice, white is not an ideal color, especially when used by itself. Its extremely high reflectance value can create glare and cause eyestrain. White is also depressing to many workers. The kitchen need not adopt the sterile, cold look of a hospital.

APPENDIX C.

Acoustics

APPENDIX C.

Acoustics

THE DINING HALL

Acoustics play a significant role in the design of a food service facility. This is particularly important since very large spaces are often involved. The typical mess hall's high ceilings and bare, hard surfaces are noise amplifiers. In the study conducted to determine the needs of Marine mess halls for 1990-2005, the item of improving noise control in the dining area was ranked by Marine food service officers and personnel a 7.67 on a scale of 1-9. Given that 8 is defined as very important and a 7 defined as moderately important, this issue of noise is perceived to be important enough to warrant attention in the design of the future mess hall.

According to Jack Curtis, an architectural acoustics consultant of BBN Laboratories, "a restaurant is generally considered quiet if people can easily converse with their dining companions without being bothered by activity noise or the conversation of others." Using this as a definition for quiet, most dining facilities would fail miserably. While some operations are intentionally designed to be noisy to promote the mood of fun and excitement, like bars or city cafes, the goal for the Marine mess hall should be to achieve a reasonably quiet and relaxing atmosphere. Too much noise can cause irritation and fatigue.

Sources of Noise

In the dining area, the main source of noise comes from the conversation and activity. The longer sound reverberates and bounces around the room without hitting an absorptive surface, the more noise is created. The scuffle of boots across hard floors, the clanging of trays, plates, and silverware against each other produce a tremendous amount of noise.

Another source of noise in the mess hall is caused by the scullery. The noise arising from the drop off and handling of dishes plus the roar of the dish machine spill great quantities of sharp, irritating noise into the ears of diners.

Heating, ventilation, and air conditioning (HVAC) can be a large contributor to the noise level as well. Air fans, grills, and ducts can vibrate and create annoying, humming noises. Since ducts are constructed of metal, they are excellent mediums for transmitting sound. If not properly installed, every turn of air in the duct will create noise.

Another source of noise comes from the kitchen and the serving line. Lack of adequate separation of these noisy areas from the eating areas is a problem in many facilities.

ACOUSTICAL CONTROLS

There are two principal ways to control noise: 1) increasing acoustical absoprtion in the interior space; or 2) isolating exterior noise.

Increasing Acoustical Absorption

Noise levels are reduced when the acoustical absorption of the space is increased. Noise which is loud, unexpected, or disagreeable is created when sound is allowed to reverberate freely. Sound bouncing back and forth off surfaces extends the life of the sound and interferes with the ability to hear. If some or all of a sound is absorbed when it hits a surface, less is reverberated into the space. Good acoustical materials are those that are soft and porous, such as these below.

1. Carpeting
2. Drapery
3. Furnishings
4. Acoustical tile for the ceiling
5. Fabric-paneled partitions or wall units

Carpeting. Carpeting is an excellent way to decrease noise in a mess hall. It reduce footfalls and can dramatically enhance the appearance of the dining area.

Not all carpets, however, provide acoustical absorption. There are several characteristics to look for when choosing a carpet that will provide optimal noise control. First, the greater the faceweight (i.e., the weight per unit area of carpet pile), the greater the sound absorption. All other factors being equal, the face weight can be increased if the pile height of the carpet is increased or if the density of the weave is increased.

While the weight of the backing material is not important (just the faceweight of the carpet is what counts), the type and amount of padding underneath the carpet does affect the amount of acoustical absoprtion. Padding substantially increases absorption, provided that it is porous. You must be able to blow through the padding or it will be acoustically useless. Furthermore, the thicker the padding, the better the sound absorption. Granted, heavy carpeting and thick padding is costly. However, the wearing qualities of the carpet also increase. With today's extremely strong and durable synthetics, carpets last longer than ever before, making a carpet a valuable and wise investment.

Drapery. This is another means to reduce noise. As with carpet, the drape fabric must be porous in order to be effective. Also, the heavier the fabric, the greater its absorptive qualities.

A measure of a drape's weight is its "percent fullness." Percent fullness is the "percentage by which the width of the fabric exceeds the width of the finished drapery." This measurement is similar to a measurement of a drape's density. The greater the percent fullness, the denser and heavier it is. Thus, 100% fullness means that the width of the fabric used is twice the width

of the finished drape. Also, the amount of space between the wall and the drape affects the acoustical effectiveness of the drape. The drape should be hung several inches away from the wall rather that flat against it.

Furnishings. Furniture also plays an important role in noise control. Plastic chairs and hard table surfaces will reflect much more sound than upholstered chairs and tablecloths. New, tough and stain-resistant fabrics make upholstered furniture an economical and practical alternative to the extremely durable, but generally uncomfortable plastic chairs now used.

Once again, the criterion for selecting carpet and drapery holds true for furniture. The upholstered fabric must be porous to allow sound to penetrate and be absorbed into the padding, which must also be porous.

Acoustical Tile. A fourth way to decrease noise in the dining area is to install acoustical tile on the ceiling, converting a very expansive area into an absorber rather than a producer of sound. Since much sound reverberates off the hard plaster or concrete ceiling, acoustical tile is very porous and is usually suspended from the ceiling, leaving an airspace which is necessary for acoustical tile to be fully effective. The acoustical tile should absorb at least 65% of the sound generated.

Lowering the ceiling is effective in reducing noise because the reverberation time of sound is reduced. Keep in mind that the larger the cavity or space, the longer it takes for sound to travel, to be absorbed, and to finally die. Since most dining facilities are very large spaces with high ceilings, noise levels are generally high.

Acoustical materials are more effective if they are suspended from the ceiling rather that directly affixed to it. Also, painting acoustical tile can destroy some or all of its value because porosity is reduced; therefore, they should not be painted. If they are, care must be exercised in the type and application of the paint.

When the ceiling is extremely high, the effectiveness of acoustical tile is diminished because sound waves will end up bouncing back and forth between walls more so than with the ceiling. In this case, providing absorptive materials on the walls such as carpeting is recommended.

Besides acoustical tile, decorative wood slats or trellises incorporated within the design of the dining area will decrease noise, not to mention contribute to the aesthetics of the environment. A blanket of fiberglass against the ceiling is a good absorber of sound. Particular care is required when using fiberglass since it has little structural stength.

Fabric-Paneled Partitions or Wall Units. A more permanent method to reduce noise is to construct partitions or to build walls within the dining area. This serves to subdivide a large, alienating space into smaller, more intimate ones which are acoustically as well as aesthetically desirable. With smaller spaces, reverberation time is decreased. If the partitions or walls are covered with carpet or fabric, the acoustical benefits are multiplied.

Isolating Exterior Noise

The other method to reduce noise in a dining area is to block external sources of noise. Unwanted sounds from cars, machines, airplanes, and people can be annoying if allowed to enter the interior space. Ideally, the dining facility should be an escape from these everyday noises. Doors and entries into the dining facility should be kept closed to exclude noise. Operable windows should be securely shut if the comfort and temperature of the dining hall is not reliant on outside breezes and temperatures. If located next to an area which produces extremely loud noises like an airfield or firing range, double pane glass with a vacuum is extremely effective in stopping noise.

The entry should not open directly into the dining facility. The crowded and potentially noisy arrival of Marines and lines that form should be contained in a separate area.

The kitchen and serving area are the major sources of noise entering the eating area. In many dining facilities, the serving area is a part of the dining area. The partitions between the dining and serving areas normally are not effective acoustical and visual barriers. From a planning standpoint, the serving area should be a distinct, enclosed space which is connected to the dining area. To isolate noise, sound buffers and chambers should be built to choke off as much noise as possible before it reaches the dining room.

In the kitchen, noise can interfere with worker's attention and productivity. Since concentration can also be also diminished, more accidents may result in a noisy kitchen. Those food service officers and personnel surveyed rated the control of kitchen noise as "moderately important." Kitchen noise should not be ignored.

Sources of Kitchen Noise

The operation of equipment is the largest cause of noise in the kitchen. Dishwashing machines, waste disposals, steamers, and slicers are loud and used frequently. The hard surfaces required in a kitchen for health and sanitation codes magnify noise. The constant transportation of supplies, food, pots, and dishes on carts and trucks maintains a consistently high level of noise and activity. Fans and hoods are also large producers of noise.

Reducing Kitchen Noise

Noise in the kitchen can never be eliminated or completely controlled. The best weapon against noise is proper installation and maintenance of equipment to ensure operation at the quietest design level. Proper supervision and training of workers to work efficiently and quietly will help reduce noise.

Trucks and carts should have rubber tires for quieter operation and also rubber bumpers to decrease sounds of collisions. Equipment should be securely and resiliently mounted. The noisy scullery should be separated from the kitchen as much as possible while still maintaining good accessibility. Equipment rooms should be acoustically prepared to minimize noise spillover into the kitchen.

Noise produced by air conditioning can be a problem that may not be readily solvable. Before attempting expensive solutions, such as insulating ducts to absorb sound, a simple method should be attempted. Adjust the position of the louvres which control the angle at which air leaves the vent. The smaller the angle of the airflow's deflection, the less noise will be produced. Consequently, increasing the amount of airflow through the vent can decrease noise by adjusting the position of the damper. Noise is created as the air flows past the damper. Thus the least amount of noise is produced when the damper is fully opened. However, a balance must be struck so that strong drafts do not result.